

Geographical Sciences

Department Website: <http://geography.uchicago.edu>

Program of Study

The discipline of geography contributes to an understanding of society by exploring the Earth's environment and its interactions with human life, by inquiring into cultures and societies from the perspective of area study, and by investigating problems of spatial organization. The BA program in geographical sciences offers a distinctive focus for general education and provides a background both for advanced specialization in the discipline and for study in other fields. Solid grounding in modern geography can lead to careers in government service, environmental consulting, marketing, publishing, planning, and teaching at all levels.

Program Requirements

The BA degree in geographical sciences calls for the satisfactory completion of eleven courses, at least eight of which must be in geographical sciences. These include an introduction to Geographic Information Systems/GIS (GEOG 28201 Intro to Geographic Information Systems); the senior seminar (GEOG 29800 Senior Seminar); and at least nine additional geography courses, up to three of which may be in approved related fields. A BA thesis is prepared in connection with the senior seminar.

Summary of Requirements

GEOG 28202	Geographic Information Science I	100
Nine additional geographical sciences courses; up to three may be in approved related fields		900
GEOG 29800	Senior Seminar	100
BA thesis		
Total Units		1100

Grading

All courses counted toward the geographical sciences major must be taken for quality grades.

Research Grants

Geographical sciences students may apply for small grants from the Ada Espenshade Wrigley Fund in support of extraordinary expenses connected with research leading to their BA thesis.

Honors

Honors are awarded to students with an overall GPA of 3.0 or higher who submit a BA thesis that is judged to be outstanding.

Awards

Each year the Committee on Geographical Sciences nominates fourth-year students for an Outstanding Senior in Geography Award from the Illinois Geographical Society and an Award for Excellence from the National Council for Geographic Education and the Association of American Geographers.

Geographical Studies Courses

GEOG 20100. Cultural Geography. 100 Units.

This course examines the two main concerns of this field of geography: (1) the logic and pathology revealed in the record of the human use and misuse of the Earth, and (2) the discordant relationship of the world political map with more complicated patterns of linguistic and religious distribution.

Instructor(s): TBD Terms Offered: TBD

Equivalent Course(s): ENST 25900, GEOG 30100

GEOG 20273. Urban Spatial Archaeology I. 100 Units.

Space and time are fundamental concepts in urban spatial science. In this course, students will gain substantive and technical knowledge on how to analyze space and time through the tools of urban spatial archaeology. Specifically, this course will introduce students to various historical data sources on Chicago and New Orleans to digitize, then conduct a spatial historical analysis of any topic of their choice. By taking a historical approach to the study of time and space, students will walk away from the course with (1) ways to conceptualize time and space when studying urban issues, and (2) skills for designing a project to empirically demonstrate the workings of time and space in the real world. At the end of this course, students will be expected to have produced a historical dataset for a research paper that will be completed in the next course sequence.

Instructor(s): R. Vargas Terms Offered: Winter. Cancelled - Not offered in 2018/19

Prerequisite(s): GEOG 20500 and GEOG 28201

Equivalent Course(s): SOCI 20273, GEOG 30273, SOCI 30273

GEOG 20274. Urban Spatial Archaeology II. 100 Units.

This course builds off Urban Spatial Archaeology I, by focusing on more specific ways to apply the concepts of space and time to contemporary urban research issues. Students will also learn methods for analyzing the data they chose to digitize in the previous quarter, which will culminate in a research paper on a topic of their choosing. Students will walk away from this course with a deeper understanding of how researchers and policy makers think of space and time with respect to a particular urban issue. In addition, students will have produced a research paper and data visualization that would critique the ways researchers have traditionally conceptualized time and space.

Instructor(s): R. Vargas Terms Offered: Spring, Cancelled - Not Offered in 2018/2019

Prerequisite(s): SOCI 20273/30273 and GEOG 20273/30273

Equivalent Course(s): SOCI 30274, GEOG 30274, SOCI 20274

GEOG 20500. Introduction to Spatial Data Science. 100 Units.

Spatial data science consists of a collection of concepts and methods drawn from both statistics and computer science that deal with accessing, manipulating, visualizing, exploring and reasoning about geographical data. The course introduces the types of spatial data relevant in social science inquiry and reviews a range of methods to explore these data. Topics covered include formal spatial data structures, geovisualization and visual analytics, rate smoothing, spatial autocorrelation, cluster detection and spatial data mining. An important aspect of the course is to learn and apply open source software tools, including R and GeoDa.

Instructor(s): L. Anselin Terms Offered: Autumn

Prerequisite(s): STAT 22000 (or equivalent), familiarity with GIS is helpful, but not necessary

Equivalent Course(s): SOCI 20253, SOCI 30253, GEOG 30500, MACS 54000

GEOG 21900. Historical Geography of the United States. 100 Units.

This course examines the spatial dynamics of empire, the frontier, regional development, the social character of settlement patterns, and the evolution of the cultural landscapes of America from pre-European times to 1900. All-day northern Illinois field trip required.

Instructor(s): M. Conzen Terms Offered: Autumn

Note(s): This course offered in even years.

Equivalent Course(s): GEOG 31900, HIST 28800, HIST 38800

GEOG 22101. Changing America in the Last 100 Years. 100 Units.

This course explores the regional organization of U.S. society and its economy during the pivotal twentieth century, emphasizing the shifting dynamics that explain the spatial distribution of people, resources, economic activity, human settlement patterns, and mobility. We put special focus on the regional restructuring of industry and services, transportation, city growth, and cultural consumption. Two-day weekend field trip to the Mississippi River required.

Equivalent Course(s): HIST 37506, HIST 27506, GEOG 32101

GEOG 22700. Urban Structure and Process. 100 Units.

This course reviews competing theories of urban development, especially their ability to explain the changing nature of cities under the impact of advanced industrialism. Analysis includes a consideration of emerging metropolitan regions, the microstructure of local neighborhoods, and the limitations of the past American experience as a way of developing urban policy both in this country and elsewhere.

Instructor(s): F. Stuart Terms Offered: Spring

Equivalent Course(s): SOCI 30104, CRES 20104, SOCI 20104, GEOG 32700, SOSC 25100

GEOG 23003. Urban Europe, 1600-present. 100 Units.

This course examines the growth, structure, and, on occasion, decline of European towns and cities from the seventeenth century to the present. The focus throughout is on questions directly related to the positioning, form, and function of urban communities and to the efforts of interest groups and policy makers to shape and promote the fortunes of these communities. The course is interdisciplinary in spirit and content, drawing on the contributions of historians, geographers, sociologists, economists, demographers, political scientists, urban planners, and others. There are no prerequisites; the readings and lectures cover whatever needs to be known about theories, methods, and the European context.

Instructor(s): J. Craig Terms Offered: Winter

Equivalent Course(s): HIST 23003, GEOG 33003, HIST 33003

GEOG 23500. Urban Geography. 100 Units.

This course examines the spatial organization and current restructuring of modern cities in light of the economic, social, cultural, and political forces that shape them. It explores the systematic interactions between social process and physical system. We cover basic concepts of urbanism and urbanization, systems of cities urban growth, migration, centralization and decentralization, land-use dynamics, physical geography, urban morphology, and planning. Field trip in Chicago region required. This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Winter

Note(s): This course offered in even years.

Equivalent Course(s): GEOG 33500, ENST 24660

GEOG 23700. Geographical Issues in Housing and Community Development. 100 Units.

This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Spring. This course offered in even years.

Prerequisite(s): Open to Chicago Studies Program students.

Equivalent Course(s): PBPL 23700, GEOG 33700

GEOG 24100. Urban Design: The Chicago Experience. 100 Units.

This course examines the theory and practice of urban design at the scale of block, street, and building--the pedestrian realm. Topics include walkability, the design of streets, architectural style and its effect on pedestrian experience, safety and security in relation to accessibility and social connection, concepts of urban fabric, repair and placemaking, the regulation of urban form, and the social implications of civic spaces. Students will analyze normative principles and the debates that surround them through readings and discussion, as well as firsthand interaction with the urbanism of Chicago.

Equivalent Course(s): PBPL 24105, GEOG 34100, SOSC 26001, SOSC 36001

GEOG 24190. Imagining Chicago's Common Buildings. 100 Units.

This class is an architectural studio based in the common residential buildings of Chicago and the city's built environment. While a design project and architectural skills will be the focus of the class, it will also incorporate readings, a small amount of writing, and some social and geographical history. We will: (1) give students interested in pursuing architecture or the study of cities experience with a studio class and some skills related to architectural thinking, (2) acquaint students intimately with Chicago's common residential buildings and built fabric, and (3) situate all this within a context of social thought about residential architecture, common buildings, housing, and the city.

Instructor(s): L. Joyner Terms Offered: Autumn

Equivalent Course(s): AMER 24190, ENST 24190, ARTV 20210, ARTH 24190

GEOG 24600. Introduction to Urban Sciences. 100 Units.

This course is a grand tour of conceptual frameworks, general phenomena, emerging data and policy applications that define a growing scientific integrated understanding of cities and urbanization. It starts with a general outlook of current worldwide explosive urbanization and associated changes in social, economic and environmental indicators. It then introduces a number of historical models, from sociology, economics and geography that have been proposed to understand how cities operate. We will discuss how these and other facets of cities can be integrated as dynamical complex systems and derive their general characteristics as social networks embedded in structured physical spaces. Resulting general properties of cities will be illustrated in different geographic and historical contexts, including an understanding of urban resource flows, emergent institutions and the division of labor and knowledge as drivers of innovation and economic growth. The second part of the course will deal with issues of inequality, heterogeneity and (sustainable) growth in cities. We will explore how these features of cities present different realities and opportunities to different individuals and how these appear as spatially concentrated (dis)advantage that shape people's life courses. We will show how issues of inequality also have consequences at more macroscopic levels and derive the general features of population and economic growth for systems of cities and nations.

Instructor(s): Luis Bettencourt Terms Offered: Autumn

Prerequisite(s): STAT 22000

Equivalent Course(s): PBPL 24605, ENST 24600, SOCI 20285

GEOG 24700. Introduction to Urban Planning. 100 Units.

The academic study of urban planning encompasses a range of issues dealing with cities, from urban design to governance, economic development, local politics, and place. The goal of this course is to provide a broad overview of urban planning theory and history while at the same time introducing students to basic GIS applications for urban planners. This format provides students with a better contextual understanding of the wide range of issues currently facing 21st century cities, and at the same time serves as an introduction to the everyday practice of urban planning. The course includes readings from prominent urban theorists, a discussion of the historical development of the urban planning profession in the US, and GIS exercises that allow students to apply their theoretical urban knowledge to real-world planning problems.

Instructor(s): Kevin Credit Terms Offered: Autumn

Equivalent Course(s): ENST 24680, GEOG 34700

GEOG 25400-25800. Ancient Landscapes I-II.

The landscape of the Near East contains a detailed and subtle record of environmental, social, and economic processes that have obtained over thousands of years. Landscape analysis is therefore proving to be fundamental to an understanding of the processes that underpinned the development of ancient Near Eastern society. This sequence provides an overview of the ancient cultural landscapes of this heartland of early civilization from the early stages of complex societies in the fifth and sixth millennia B.C. to the close of the Early Islamic period around the tenth century A.D.

GEOG 25400. Ancient Landscapes I. 100 Units.

This is a two-course sequence that introduces students to theory and method in landscape studies and the use of Geographical Information Systems (GIS) to analyze archaeological, anthropological, historical, and environmental data. Course one covers the theoretical and methodological background necessary to understand spatial approaches to landscape and the fundamentals of using ESRI's ArcGIS software, and further guides students in developing a research proposal. Course two covers more advanced GIS-based analysis (using vector, raster, and satellite remote sensing data) and guides students in carrying out their own spatial research project. In both courses, techniques are introduced through the discussion of case studies (focused on the archaeology of the Middle East) and through demonstration of software skills. During supervised laboratory times, the various techniques and analyses covered will be applied to sample archaeological data and also to data from a region/topic chosen by the student.

Instructor(s): Staff Terms Offered: Autumn

Equivalent Course(s): NEAA 20061, NEAA 30061, ANTH 26710, ANTH 36710, GEOG 35400

GEOG 25800. Ancient Landscapes II. 100 Units.

This is a two-course sequence that introduces students to theory and method in landscape studies and the use of Geographical Information Systems (GIS) to analyze archaeological, anthropological, historical, and environmental data. Course one covers the theoretical and methodological background necessary to understand spatial approaches to landscape and the fundamentals of using ESRI's ArcGIS software, and further guides students in developing a research proposal. Course two covers more advanced GIS-based analysis (using vector, raster, and satellite remote sensing data) and guides students in carrying out their own spatial research project. In both courses, techniques are introduced through the discussion of case studies (focused on the archaeology of the Middle East) and through demonstration of software skills. During supervised laboratory times, the various techniques and analyses covered will be applied to sample archaeological data and also to data from a region/topic chosen by the student.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): NEAA 20061

Equivalent Course(s): GEOG 35800, NEAA 30062, ANTH 26711, NEAA 20062, ANTH 36711

GEOG 25500. Biogeography. 100 Units.

This course examines factors governing the distribution and abundance of animals and plants. Topics include patterns and processes in historical biogeography, island biogeography, geographical ecology, aereography, and conservation biology (e.g., design and effectiveness of nature reserves).

Instructor(s): B. Patterson (odd years, lab), L. Heaney (even years, discussion) Terms Offered: Winter

Prerequisite(s): Three quarters of a Biological Sciences Fundamentals sequence and a course in either ecology, evolution, or earth history; or consent of instructor

Equivalent Course(s): EVOL 45500, BIOS 23406, ENST 25500, GEOG 35500

GEOG 25800. Ancient Landscapes II. 100 Units.

This is a two-course sequence that introduces students to theory and method in landscape studies and the use of Geographical Information Systems (GIS) to analyze archaeological, anthropological, historical, and environmental data. Course one covers the theoretical and methodological background necessary to understand spatial approaches to landscape and the fundamentals of using ESRI's ArcGIS software, and further guides students in developing a research proposal. Course two covers more advanced GIS-based analysis (using vector, raster, and satellite remote sensing data) and guides students in carrying out their own spatial research project. In both courses, techniques are introduced through the discussion of case studies (focused on the archaeology of the Middle East) and through demonstration of software skills. During supervised laboratory times, the various techniques and analyses covered will be applied to sample archaeological data and also to data from a region/topic chosen by the student.

Instructor(s): Staff Terms Offered: Winter

Prerequisite(s): NEAA 20061

Equivalent Course(s): GEOG 35800, NEAA 30062, ANTH 26711, NEAA 20062, ANTH 36711

GEOG 25900. Introduction to Location Analysis. 100 Units.

Understanding the location of business activities - agricultural, industrial, retail, and knowledge-based - has long been a focus for economic geographers, regional scientists, and urban planners. This course traces the key theories and conceptual models that have been developed over time to explain why economic activities tend to locate where they do. To introduce and explain these theories, this course covers several foundational concepts in economic geography and urban planning, such as: bid-rent theory, locational triangulation, various models of urban structure and growth, urban market areas, transportation, economic restructuring, and the "back-to-the-city" movement. This course incorporates several GIS exercises to teach students the basic principles of location optimization and to help illuminate the foundational theoretical principles of economic geography.

Instructor(s): K. Credit Terms Offered: Spring

Equivalent Course(s): GEOG 35900

GEOG 26100. Roots of the Modern American City. 100 Units.

This course traces the economic, social, and physical development of the city in North America from pre-European times to the mid-twentieth century. We emphasize evolving regional urban systems, the changing spatial organization of people and land use in urban areas, and the developing distinctiveness of American urban landscapes. All-day Illinois field trip required. This course is part of the College Course Cluster, Urban Design.

Instructor(s): M. Conzen Terms Offered: Autumn

Note(s): This course offered in odd years.

Equivalent Course(s): ENST 26100, GEOG 36100, HIST 38900, HIST 28900

GEOG 26400. Frontiers and Borders in South Asia. 100 Units.

Sometimes the frontline of empires and nation-states, sometimes neglected or inaccessible, peripheral spaces are often of core concern to the central state. The aim of this upper-level undergraduate seminar is to examine the history of borders, borderlands, and frontiers as political and social concepts and as produced spaces. We will examine an array of case studies in addition to more theoretical scholarship that spans the disciplines of history, environmental studies, political science, anthropology, and geography. While using South Asia (itself a rather recently invented "area") as the primary geographic and historical focus this course will not be bound exclusively to it. The first goal of the course is to explore the evolution of key concepts such as space, territory, frontier, and borders/borderlands. The second goal is to develop methods for analyzing subjects that are simultaneously physical spaces and political, social, and historical ideas. Finally, it seeks to introduce students to areas that often fall beyond the penumbra of historical surveys centered on the nation-state. No prior knowledge of South Asian history is assumed. Weekly readings will average 150 pages. Note: No prior knowledge of South Asian history is assumed.

Equivalent Course(s): SALC 26804, GLST 26804, HIST 26804

GEOG 27155. Urban Design with Nature. 100 Units.

This course will use the Chicago region as a laboratory for evaluating the social, environmental, and economic effects of alternative forms of human settlement. Students will be introduced to the basics of geographic information systems (GIS) and use GIS to map Chicago's "place types" - human habitats that vary along an urban-to-rural transect, as well as the ecosystem services provided by the types. They will then evaluate these place types using a range of social, economic and environmental criteria. In this way, students will evaluate the region's potential to simultaneously realize economic potential, protect environmental health, and provide social connectivity. This course is part of the College Course Cluster program: Urban Design.

Instructor(s): Sabina Shaikh and Emily Talen Terms Offered: Autumn

Note(s): Students who have taken ENST 27150: Urban Design with Nature: Assessing Social and Natural Realms in the Calumet Region in the Spring of 2018 may not enroll in this course.

Equivalent Course(s): PBPL 27156, ENST 27155

GEOG 27325. Urban Ecology in the Calumet Region. 100 Units.

This course will give students a strong foundation in the local ecology of the Calumet. Students will use local research and habitats to understand fundamental concepts in ecology and the scientific method. Students will explore some of these habitats during field trips with scientists and practitioners. The course focus will be on urban ecology in the region, whether these fundamental ecological concepts are applicable, what other factors need to be considered in the urban ecosystem, and the role humans have in restoring natural and managing novel ecosystems, among other topics.

Terms Offered: TBD

Equivalent Course(s): PBPL 27325, ENST 27325

GEOG 27600. Hist Coll: Chicago South Side. 100 Units.

No description available.

Instructor(s): K. Conzen Terms Offered: Autumn

Equivalent Course(s): HIST 29603

GEOG 27601. Colloquium: Hyde Park and Chicago's South Side as Historic Laboratory. 100 Units.

This colloquium uses Hyde Park and Chicago's South Side as a case study to introduce students to issues and methodologies in the history and historical geography of American urban life during the past century and a half. Discussions will focus on both primary and secondary source readings, and each participant will design and carry out an original research project.

Instructor(s): K. Conzen Terms Offered: Autumn

Equivalent Course(s): HIST 29613

GEOG 28000. GIScience Practicum. 100 Units.

This applied course in geographic information science builds upon and refines knowledge and geocomputational expertise gained in the GIScience sequence. Students will develop multifaceted GIS project incorporating spatial thinking in design, infrastructure, and implementation. Projects could include the development of a web application, dynamic dashboard, interactive storytelling map, infographic-driven policy brief, or research article and are encouraged to link additional disciplines like health, sociology, economics, or political science.

Instructor(s): T. Schuble Terms Offered: Spring

Equivalent Course(s): GEOG 38000

GEOG 28202. Geographic Information Science I. 100 Units.

This course introduces students to a wide range of geospatial technologies and techniques in order to explain the basic theory and application of geographic information systems (GIS). To do this, students will use open source or free software such as QGIS and Google Earth Pro to complete GIS lab exercises that cover a range of topics, including an introduction to different types of geospatial data, geographic measurement, GIS, principles of cartography, remote sensing, basic GIS mapping and spatial analysis techniques, remote sensing, and specific geospatial applications such as 3D modeling and geodesign. By providing a general overview of geospatial technologies, this course provides students with a broad foundational knowledge of the field of GIScience that prepares them for more specialized concepts and applications covered in future GIS courses.

Instructor(s): Kevin Credit Terms Offered: Autumn

Equivalent Course(s): GEOG 38202

GEOG 28402. Geographic Information Science II. 100 Units.

This course investigates the theory and practice of infrastructure and computational approaches in spatial analysis and GIScience. Geocomputation is introduced as a multidisciplinary systems paradigm necessary for solving complex spatial problems and facilitating new understandings. Students will learn about the elements of spatial algorithms and data structures, geospatial topologies, spatial data queries, and the basics of geodatabase architecture and design.

Instructor(s): M. Kodak Terms Offered: Winter

Prerequisite(s): GIS I

Equivalent Course(s): GEOG 38402

GEOG 28602. Geographic Information Science III. 100 Units.

This advanced course extends and connects both foundational and functional GIScience concepts. Students will be introduced to advanced programming and scripting languages necessary for spatial analysis and GIScience applications. Additional topics include customization, enterprise GIS, web GIS, and advanced visualization and analytic techniques.

Instructor(s): M. Kolak Terms Offered: Spring, GIS I and GIS II

Equivalent Course(s): GEOG 38602

GEOG 28700. Readings in Spatial Analysis. 100 Units.

This independent reading option is an opportunity to explore special topics in the exploration, visualization and statistical modeling of geospatial data.

Instructor(s): L. Anselin Terms Offered: Autumn Spring Winter. Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading.

Note(s): By permission of instructor only.

Equivalent Course(s): ENST 28800, GEOG 38700

GEOG 28702. Introduction to GIS and Spatial Analysis for Social Scientists. 100 Units.

This course provides an introduction and overview of how spatial thinking is translated into specific methods to handle geographic information and the statistical analysis of such information. This is not a course to learn a specific GIS software program, but the goal is to learn how to think about spatial aspects of research questions, as they pertain to how the data are collected, organized and transformed, and how these spatial aspects affect statistical methods. The focus is on research questions relevant in the social sciences, which inspires the selection of the particular methods that are covered. Examples include spatial data integration (spatial join), transformations between different spatial scales (overlay), the computation of "spatial" variables (distance, buffer, shortest path), geovisualization, visual analytics, and the assessment of spatial autocorrelation (the lack of independence among spatial variables). The methods will be illustrated by means of open source software such as QGIS and R.

Instructor(s): M. Kolak Terms Offered: Spring

Equivalent Course(s): GEOG 38702

GEOG 28800. History of Cartography. 100 Units.

This course offers a grand overview of the key developments in mapmaking throughout history worldwide, from pre-literate cartography to the modern interactive digital environment. It looks at the producers, their audience, the technologies and artistic systems used, and the human and global contexts in which they developed. The course also draws on the extensive map collections of Regenstein Library.

Instructor(s): G. Danzer Terms Offered: Spring

Equivalent Course(s): GEOG 38800

GEOG 28900. Readings in Urban Planning and Design. 100 Units.

This independent reading option is an opportunity to explore contemporary debates and theoretical arguments involved in the planning and design of cities.

Instructor(s): E. Talen Terms Offered: Autumn Spring Winter. Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading.

Note(s): By permission of instructor only.

Equivalent Course(s): GEOG 38900, ENST 28980

GEOG 29100. Undergraduate Tutorial. 100 Units.

This course is intended for individual study of selected geographical problems.

Terms Offered: Autumn, Winter, Spring

Prerequisite(s): Consent of instructor.

Note(s): Available for either quality grades or for P/F grading.

GEOG 29700. Readings in Special Topics in Geography. 100 Units.

A program of supervised reading of a special topic in geography. Students will meet periodically with the instructor to discuss the readings, and submit a final paper critically reviewing the conceptual orientation and substantive content of the readings.

Instructor(s): M. Conzen, L. Anselin, E. Talen. Terms Offered: Autumn Spring Winter

Prerequisite(s): Consent of instructor.

Note(s): Consent of instructor. Students are required to submit the College Reading and Research Course Form. Available for either quality grades or for P/F grading.

GEOG 29800. Senior Seminar. 100 Units.

This course is designed for development of the BA thesis.

Instructor(s): M. Conzen Terms Offered: Winter

Prerequisite(s): Open to students with fourth-year standing who are majoring in geographical studies.

Note(s): Must be taken for a quality grade.



Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Trajan.

Times was used instead of Palatino.

The editor may contact Leepfrog for a draft with the correct fonts in place.